

REMARKS

Reconsideration and allowance of the claims are respectfully requested in view of the following remarks.

Claim Disposition

Claims 1 -- 23, 26 - 28 are pending in the present application. Claims 6 - 12, 14, 15, and 26 - 28 have been allowed. Claims 18 - 20, and 23 are objected to. Applicants appreciate the Examiner's indication regarding the allowance of claims 6 - 12, 14, 15, and 26 - 28, as well as the allowability of claims 18 -- 20, and 23. Claims 1 - 5, 13, 21, 22 stand rejected. Applicants further note that no rejections have been provided regarding Claims 16 and 17. Therefore, Applicants have assumed that these claims are allowable.

Claim Rejections 35 U.S.C. § 103(a)

Claims 1, 4, 5, and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lu et al. U.S. Patent 6,107,767, hereinafter referred to as Lu in view of Kyodo, U.S. Patent 5,796,231. Applicants respectfully traverse. The Examiner in the Office Action states:

"Re Claims 1, 4 and 5, Lu discloses a method of controlling a feedback torque of motor 28 comprising"

"Receiving a signal indicative of a difference between desired, an actual, motor positions (via position sensor 30, and col 5, lines 39-43),"

"Filtering the signal into bands (via filters 70/71), and,"

"Applying a gain 72 (col 6, lines 60-62) to at least one of the bands, where the gain is variable (col 6, lines 60-62)."

"The reference does not specify amplifying the gain "in correspondence with" at least the signal or a low-pass portion of the signal. Kyoto shows this step,"

"Amplifying (via amplifiers 4 and 6) the gain of band 8, in correspondence with the signal 5, where the gain is scheduled (amplifier 6 - col 4, lines 27-29)."

"It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this step, as shown in Kyoto, to provide improved position detection (Abstract)."

"Re Claim 13, the references disclose a controller for an active steering system, the structure and means provided above."

Applicants respectfully disagree. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996). See MPEP 2143

Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

Further, even assuming that all elements of an invention are disclosed in the prior art, an Examiner cannot establish obviousness by locating references that describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would have impelled one skilled in the art to do what the patent applicant has done. *Ex parte Levengood*, 28 U.S.P.Q. 1300 (Bd. Pat. App. Int. 1993). The references, when viewed by themselves and not in retrospect, must suggest the invention. *In Re Skoll*, 187 U.S.P.Q. 481 (C.C.P.A. 1975).

Considering Claims 1 and 13, Applicants respectfully contend that neither Lu nor Kyodo teach or disclose each element of the claims. Specifically, neither Lu nor Kyodo disclose or teach, "a method for controlling a feel back torque of a motor". Neither Lu nor Kyodo disclose or teach, "receiving a signal indicative of a difference between a desired motor position and an actual motor position". To support the rejection, the Examiner relies upon Lu at Col. 5, lines 39 – 43. However, at Col. 5, lines 39 – 43, Lu merely discloses the existence of a position sensor 30 and receiving a signal therefrom. There is no disclosure of a signal indicative of a difference between a desired motor position and an actual motor

position. There is only teaching of a rotor position signal for the motor. Therefore, because Lu does not disclose or teach an element of the invention it cannot anticipate Applicants' claims. Thus, Claims 1 and 13 are allowable, the rejection is improper and should be withdrawn.

Furthermore, neither Lu nor Kyodo disclose or teach "filtering the received signal into a plurality of frequency bands; and applying a gain to at least one of the filtered frequency bands in correspondence with at least one of the received signal and a low-pass portion of the received signal to provide a motor command." To support the rejection, the Examiner relies upon Lu citing filters 70 and 71 (See Figure 2). However, Applicants direct the Examiner's attention to note that filters 70 and 71 as taught in Lu are filtering the torque signal received from a torque signal processor 50. There is no teaching whatsoever regarding filtering the received signal (indicative of a difference between a desired motor position and an actual motor position) into a plurality of frequency bands. Therefore, because neither Lu nor Kyodo disclose or teach an element of the invention they cannot be employed to render Applicants' claims unpatentable.

Moreover, neither Lu nor Kyodo includes disclosure with respect to "applying a gain to at least one of the filtered frequency bands in correspondence with at least one of the received signal and a low-pass portion of the received signal" To support the rejection the Examiner relies on the disclosure of Lu at Col. 6, lines 60 - 62. However, Applicants respectfully contend that the disclosure of Lu as cited is directed to a torque signal. There is no disclosure with respect to "applying a gain to at least one of the filtered frequency bands in correspondence with at least one of the received signal and a low-pass portion of the received signal" as claimed by the Applicants. Furthermore, the Examiner suggests that Kyodo discloses this element based on amplifier 6 in Col. 4, lines 27 - 29. Applicants respectfully disagree. The amplifier 6 as taught in Kyodo does not "applying a gain to at least one of the filtered frequency bands in correspondence with at least one of the received signal and a low-pass portion of the received signal ...". The gains as applied in Kyodo are not applied to signals that are of at least one of a "filtered frequency band" "in correspondence with ..." as claimed by the Applicants. Kyodo includes no such disclosure. Therefore, neither Lu nor Kyodo disclose or teach this element of the invention, and they cannot be employed to render Applicants' claims unpatentable.

Therefore, because neither Lu nor Kyodo disclose or teach each of the elements in the claimed invention, the Examiner has not made a prima facie case for obviousness as to

Claims 1 and 13. Thus, Claims 1 and 13 are allowable, the rejections are improper, and they should be withdrawn.

With regard to Claims 4 and 5, these claims include the abovementioned limitations of Claim 1. Based on the arguments presented above, Claim 1 is allowable. Therefore claims 4 and 5 are also allowable. Additionally, Claims 4 and 5 depend from Claim 1, which is now allowable based upon the abovementioned reasoning, and therefore because claims 4 and 5 depend from a claim that is allowable, they too is allowable and the rejections should be withdrawn. MPEP 2143.03.

Claims 2, and 3 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lu and Kyodo, and in further view of Bishop. Applicants respectfully traverse. The Examiner states:

"The previous references do not disclose the system/method including a differential (unit), while Bishop shows this component 38-39, as an element of an active steering system. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this feature, as shown in Bishop, to provide increased accuracy in adjustment of the steering system, according to driving conditions, thus increase comfort and safety."

Considering Claims 2 and 3, Applicants respectfully contend as stated with the arguments for Claim 1 presented above, that neither Lu nor Kyodo teach or disclose each element of the claimed invention. In particular, neither Lu nor Kyodo disclose or teach, "receiving a signal indicative of a difference between a desired motor position and an actual motor position". Furthermore, neither Lu nor Kyodo disclose or teach "filtering the received signal into a plurality of frequency bands; and applying a gain to at least one of the filtered frequency bands in correspondence with at least one of the received signal and a low-pass portion of the received signal to provide a motor command." Therefore, because neither Lu nor Kyodo alone or in combination, disclose or teach each of the elements in the claimed invention, the Examiner has not made a prima facie case for obviousness as to Claims 2 and 3. Thus, Claims 2 and 3 are allowable, the rejections are improper, and they should be withdrawn.

Claims 21 and 22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bishop, U.S. Patent No. 5,322,308, hereinafter referred to as Bishop, in view of Bolourchi,

U.S. Patent No. 6,625,530, hereinafter referred to as Bolourchi. Applicants respectfully traverse. The Examiner states:

“Bishop does not disclose the feel controller has comprising certain signal processing components, while Bolourchi shows

Low-pass filter 110,

High-gain function 108, and,

Low-gain function 104.”

“It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this arrangement, as shown in Bolourchi, to provide improved stability and noise susceptibility in the circuit (col 2, lines 20-22).”

Applicants respectfully contend that the explanation provided in the Office Action mischaracterizes the disclosure of Bishop and/or Bolourchi. Applicants direct the Examiner's attention to note that no rejection has been provided for Claims 16 and 17, though in these claims have been indicated to be rejected. Applicants will presume based on the rejection of Claims 21 and 22 that the Examiner intended to reject Claim 16 at least, based on the cited reference Bishop. If this presumption is in error, Applicants respectfully request that the Examiner clarify the rejections of Claims 16, 17, 21, and 22.

With regard to claims 16, 17, 21, and 22 Applicants respectfully suggest that the explanation in the Office Action mischaracterizes the teachings and disclosure of Bishop. Specifically, Bishop does not teach or disclose a “differential actuator in operable communication with said input device.” Bishop does not disclose or teach a “differential actuator”, nor its equivalent. Furthermore, Bishop does not teach or disclose, “a feel controller in signal communication with said input device, said steering actuator, and said differential actuator for controlling a feel back torque to an operator.” Bishop merely teaches a hydraulic steering gear. There is no differential actuator, nor a feel controller ...for controlling feel back torque to an operator. Therefore Bishop does not teach or disclose one or more elements of Applicants' claims. Thus, because Bishop does not disclose or teach each of the elements in the claimed invention, it cannot anticipate Applicants' claims or render them unpatentable. Thus, Claims 16, 17, 21 and 22 are allowable, the rejections are improper, and they should be withdrawn.

Regarding claims 21 and 22 specifically, Applicants respectfully submit that the Examiner has mischaracterized the teachings of both Bishop and Bolourchi. In particular, neither Bishop nor Bolourchi teach or disclose a feel controller as claimed. Furthermore, while Bolourchi may teach a low pass filter, a high pass gain function and a low pass gain function, Applicant respectfully maintains that the Examiner has used an improper standard in arriving at the rejection of the above claims under §103, based on improper hindsight which fails to consider the totality of Applicants' invention and to the totality of the cited references. More specifically the Examiner has used Applicants' disclosure to select portions of the cited references to allegedly arrive at Applicants' invention. In doing so, the Examiner has failed to consider the teachings of the references or Applicants' invention as a whole in contravention of §103.

In particular, the Examiner has provided no explanation or suggestion for the motivation to make the suggested combination of Bishop and Bolourchi, nor has the Examiner identified where in the cited references or the art teaching of such motivation may be found. *In re Fine* specifically requires that the Examiner must meet the burden of establishing the suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. The explanation in the Office Action provides no such suggestion. There is no specific teaching in Bolourchi as suggested by the Examiner that would motivate one skilled in the art to look to Bishop. Bishop is specifically drawn to a four-wheel steering system with a hydraulic actuator, while Bolourchi is specifically drawn to a steer-by-wire system. There is no teaching in either reference with respect to controlling feel back torque in an active steering system employing a differential actuator. Therefore there is no teaching in the cited references that would motivate one skilled in the art to combine the references. Clearly, the Examiner has improper hindsight to merely locate references to find the claimed elements without providing suggestion for their combination. Therefore, the Examiner has not made a prima facie case for obviousness and Claims 21 and 22 may not be rendered unpatentable as suggested. Therefore, Claims 21 and 22 are allowable, the rejections are improper, and they should be withdrawn.

The amendments and arguments presented herein are made for the purposes of better defining the invention, rather than to overcome the rejections for patentability. The claims were not amended to overcome the prior art and therefore, no presumption should attach that either the claims have been narrowed over those earlier presented, or that subject matter or equivalents thereof to which the Applicants are entitled has been surrendered.

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Reconsideration and allowance of the claims is respectfully requested in view of the amendments and preceding remarks. It is believed that the foregoing remarks are fully responsive to the Office Action and that the claims herein should be allowable to the Applicants.

In the event the Examiner has any queries regarding the instantly submitted Response, the undersigned respectfully requests the courtesy of a telephone conference to discuss any matters in need of attention.

If there are any additional charges with respect to this Response or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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